

SYSTEMS AND METHODS FOR REDUCING RADIATION DOSAGE

ABSTRACT OF THE DISCLOSURE

An imaging system including is described. The imaging system includes a radiation source configured to generate a beam, a collimator configured to collimate the beam to generate a collimated beam, and a detector configured to detect the collimated beam. The collimator is one of a first collimator with a curved contour proportional to a contour of the detector, a second collimator with blades, where slopes of two oppositely-facing surfaces of at least one of the blades are different from each other, and a third collimator having at least two sets of plates, where the plates in a set pivot with respect to each other.